Map Unit Description (MN)

Lincoln County, Minnesota

[Data apply to the entire extent of the map unit within the survey area. Map unit and soil properties for a specific parcel of land may vary somewhat and should be determined by onsite investigation]

GP--Pits, gravel-Udipsamments complex

Pits, gravel

Extent: 50 to 100 percent of the unit
Landform(s): moraines, outwash plains, stream terraces
Slope gradient: 0 to 50 percent
Parent material: sandy and gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated
Hydric soil:
Hydrologic group:
Potential for frost action:

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*

Udipsamments

Extent: 15 to 30 percent of the unit
Landform(s): moraines, outwash plains, stream terraces
Slope gradient: 0 to 6 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer)
Land capability, nonirrigated
Hydric soil:
Hydrologic group: A
Potential for frost action:

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*

J1A--Parnell silty clay loam, depressional, 0 to 1 percent slopes

Parnell, depressional

Extent: 85 to 95 percent of the unit
Landform(s): depressions on lake plains, depressions on moraines, depressions on till plains
Slope gradient: 0 to 1 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .37
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2 -- 0 to 22 in	silty clay loam	moderately slow	3.97 to 4.85 in	6.1 to 7.3
Btg -- 22 to 55 in	silty clay	slow	4.30 to 5.29 in	6.1 to 7.3
BCg -- 55 to 80 in	silty clay loam	slow	3.97 to 4.71 in	6.6 to 8.4

J2A--La Prairie loam, 0 to 2 percent slopes, occasionally flooded

La Prairie, occasionally flooded

Extent: 80 to 95 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	6.6 to 8.4
A -- 9 to 38 in	loam	moderate	5.83 to 6.41 in	6.6 to 8.4
Bw -- 38 to 50 in	loam	moderate	2.01 to 2.24 in	6.6 to 8.4
C -- 50 to 60 in	loam	moderate	1.67 to 1.87 in	7.4 to 8.4

J7B--Sverdrup sandy loam, 2 to 6 percent slopes

Sverdrup

Extent: 80 to 90 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 2 to 6 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 12 in	sandy loam	moderately rapid	1.54 to 1.77 in	6.1 to 7.3
Bw -- 12 to 26 in	sandy loam	moderately rapid	1.70 to 1.98 in	6.1 to 7.3
2C -- 26 to 80 in	sand	rapid	2.70 to 3.78 in	7.4 to 8.4

J11A--Vallers clay loam, 0 to 2 percent slopes

Vallers

Extent: 75 to 95 percent of the unit

Landform(s): rims on depressions on till plains, flats on till plains, drainageways on till plains

Slope gradient: 0 to 2 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .28

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 14 in	clay loam	moderate	2.41 to 2.69 in	7.4 to 8.4
Bkg -- 14 to 38 in	loam	moderate	3.60 to 4.56 in	7.4 to 8.4
Cg -- 38 to 80 in	loam	moderately slow	6.26 to 7.93 in	7.4 to 8.4

J17A--Quam silty clay loam, depressional, 0 to 1 percent slopes

Quam, depressional

Extent: 85 to 95 percent of the unit

Landform(s): depressions on lake plains, depressions on moraines, depressions on till plains

Slope gradient: 0 to 1 percent

Parent material: lacustrine deposits

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 7

Wind erodibility index (WEI): 38

Kw factor (surface layer) .28

Land capability, nonirrigated 3w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	silty clay loam	moderately slow	1.77 to 2.17 in	6.6 to 7.3
A1,A2 -- 10 to 45 in	silty clay loam	moderately slow	5.61 to 6.66 in	6.6 to 7.3
Cg -- 45 to 80 in	silty clay loam	moderately slow	5.61 to 6.66 in	6.6 to 7.8

J22A--Renshaw loam, 0 to 3 percent slopes

Renshaw

Extent: 75 to 95 percent of the unit
Landform(s): flats on outwash plains
Slope gradient: 0 to 3 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 3s
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	loam	moderate	1.42 to 1.56 in	6.1 to 7.3
Bw -- 7 to 15 in	loam	moderately rapid	1.34 to 1.50 in	6.6 to 7.3
2Bk -- 15 to 20 in	gravelly loamy sand	very rapid	0.26 to 0.36 in	7.4 to 8.4
2C -- 20 to 60 in	gravelly loamy sand	very rapid	1.59 to 2.39 in	7.4 to 8.4

J23A--Lamoure silty clay loam, 0 to 2 percent slopes, occasionally flooded

Lamoure, occasionally flooded

Extent: 75 to 95 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2 -- 0 to 27 in	silty clay loam	moderate	4.89 to 5.98 in	7.4 to 8.4
Cg1 -- 27 to 34 in	silty clay loam	moderate	1.07 to 1.27 in	7.4 to 8.4
Cg2 -- 34 to 60 in	silt loam	moderate	5.20 to 5.72 in	7.4 to 8.4

J25A--Rauville silty clay loam, 0 to 1 percent slopes, frequently flooded

Rauville, frequently flooded

Extent: 80 to 95 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 1 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 6w
Hydric soil: yes
Hydric group: D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2 -- 0 to 27 in	silty clay loam	moderate	4.89 to 5.98 in	7.4 to 8.4
Cg -- 27 to 45 in	silty clay loam	moderate	2.83 to 3.37 in	7.4 to 8.4
2Cg -- 45 to 60 in	stratified gravelly sand to clay loam	moderately rapid	1.20 to 2.24 in	7.4 to 8.4

J26B--Darnen loam, 2 to 6 percent slopes

Darnen

Extent: 85 to 95 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: colluvium
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydric group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 24 in	loam	moderate	4.80 to 5.28 in	6.6 to 7.3
AB,Bw1 -- 24 to 34 in	loam	moderate	1.67 to 1.87 in	6.1 to 7.3
Bw2 -- 34 to 80 in	loam	moderate	7.83 to 8.75 in	6.6 to 8.4

J31B--Arvilla-Sandberg complex, 2 to 6 percent slopes

Arvilla

Extent: 35 to 55 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 2 to 6 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	sandy loam	moderately rapid	1.18 to 1.36 in	6.1 to 7.3
Bw -- 9 to 14 in	sandy loam	moderately rapid	0.61 to 0.72 in	6.6 to 7.3
2Bk -- 14 to 48 in	gravelly sand	very rapid	0.68 to 1.69 in	7.4 to 8.4
2C -- 48 to 80 in	gravelly sand	very rapid	0.64 to 1.59 in	7.4 to 8.4

Sandberg

Extent: 30 to 50 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 2 to 6 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .15
Land capability, nonirrigated 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	gravelly sandy loam	very rapid	0.39 to 1.02 in	6.1 to 7.8
Bk -- 8 to 32 in	very gravelly sand	very rapid	0.48 to 1.44 in	7.4 to 8.4
C -- 32 to 80 in	gravelly sand	very rapid	0.96 to 2.88 in	7.4 to 8.4

J32A--Bigstone silty clay loam, depressional, 0 to 1 percent slopes

Bigstone, depressional

Extent: 70 to 90 percent of the unit
Landform(s): depressions on lake plains, depressions on moraines, depressions on till plains
Slope gradient: 0 to 1 percent
Parent material: lacustrine deposits
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	silty clay loam	moderate	1.77 to 2.17 in	7.4 to 8.4
A -- 10 to 30 in	silty clay loam	moderate	3.61 to 4.42 in	7.4 to 8.4
Cg -- 30 to 80 in	loam	moderate	7.50 to 9.50 in	7.4 to 8.4

J42C--Sandberg-Arvilla complex, 6 to 12 percent slopes

Sandberg

Extent: 50 to 70 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 6 to 12 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .15
Land capability, nonirrigated 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	gravelly sandy loam	very rapid	0.49 to 1.28 in	6.1 to 7.8
Bk -- 10 to 22 in	gravelly sand	very rapid	0.24 to 0.73 in	7.4 to 8.4
C -- 22 to 80 in	gravelly sand	very rapid	1.16 to 3.47 in	7.4 to 8.4

Arvilla

Extent: 25 to 35 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 6 to 12 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	sandy loam	moderately rapid	1.18 to 1.36 in	6.1 to 7.3
Bw -- 9 to 14 in	sandy loam	moderately rapid	0.61 to 0.72 in	6.6 to 7.3
2Bk -- 14 to 48 in	gravelly sand	very rapid	0.68 to 1.69 in	7.4 to 8.4
2C -- 48 to 80 in	gravelly sand	very rapid	0.64 to 1.59 in	7.4 to 8.4

J45F--Sandberg sandy loam, 12 to 40 percent slopes

Sandberg

Extent: 70 to 90 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 12 to 40 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .15
Land capability, nonirrigated 7e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2 -- 0 to 12 in	sandy loam	very rapid	1.54 to 1.77 in	6.1 to 7.8
Bk -- 12 to 28 in	gravelly sand	very rapid	0.32 to 0.97 in	7.4 to 8.4
C -- 28 to 80 in	gravelly sand	very rapid	1.04 to 3.12 in	7.4 to 8.4

J47A--Swenoda sandy loam, 1 to 3 percent slopes

Swenoda, moderately wet

Extent: 75 to 95 percent of the unit
Landform(s): swales on outwash plains, flats on outwash plains
Slope gradient: 1 to 3 percent
Parent material: outwash over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 2s
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 17 in	sandy loam	moderately rapid	2.20 to 2.54 in	6.1 to 7.3
Bw -- 17 to 29 in	sandy loam	moderately rapid	1.46 to 1.71 in	6.6 to 7.3
2C -- 29 to 80 in	silt loam	moderate	10.16 to 11.17 in	7.4 to 8.4

J48A--Bigstone and Parnell soils, ponded, 0 to 1 percent slopes

Bigstone, ponded

Extent: 0 to 85 percent of the unit
Landform(s): depressions on moraines, depressions on lake plains, depressions on till plains
Slope gradient: 0 to 1 percent
Parent material: lacustrine deposits
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .28
Land capability, nonirrigated 8w
Hydric soil: yes
Hydrologic group: D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1 -- 0 to 18 in	silty clay loam	moderate	3.26 to 3.98 in	7.4 to 8.4
A2 -- 18 to 48 in	silty clay loam	moderate	5.39 to 6.58 in	7.4 to 8.4
2Cg -- 48 to 80 in	loam	moderate	4.78 to 6.06 in	7.4 to 8.4

Parnell, ponded

Extent: 0 to 85 percent of the unit
Landform(s): depressions on moraines, depressions on lake plains, depressions on till plains
Slope gradient: 0 to 1 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .37
Land capability, nonirrigated 8w
Hydric soil: yes
Hydrologic group: D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2 -- 0 to 22 in	silty clay loam	moderately slow	3.97 to 4.85 in	6.1 to 7.3
Btg -- 22 to 55 in	silty clay	slow	4.30 to 5.29 in	6.1 to 7.3
BCg -- 55 to 80 in	silty clay loam	slow	3.97 to 4.71 in	6.6 to 8.4

J57A--Balaton loam, 1 to 3 percent slopes

Balaton

Extent: 75 to 95 percent of the unit
Landform(s): knolls on till plains
Slope gradient: 1 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2s
Hydric soil: no
Hydrologic group: B
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 13 in	loam	moderate	2.60 to 2.86 in	7.4 to 8.4
ABk,Bk -- 13 to 31 in	loam	moderate	2.72 to 3.44 in	7.4 to 8.4
C -- 31 to 80 in	loam	moderate	7.32 to 9.28 in	7.4 to 8.4

J70A--Brandt silty clay loam, 0 to 2 percent slopes

Brandt

Extent: 80 to 90 percent of the unit
Landform(s): flats on outwash plains
Slope gradient: 0 to 2 percent
Parent material: loess over outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .28
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	silty clay loam	moderate	1.28 to 1.56 in	6.1 to 7.3
Bw1,Bw2,Bw3 -- 7 to 34 in	silty clay loam	moderate	4.28 to 5.09 in	6.1 to 7.3
Bk1 -- 34 to 44 in	silt loam	moderate	2.05 to 2.25 in	7.4 to 8.4
2Bk2,2C1 -- 44 to 57 in	gravelly loam	moderately rapid	1.04 to 1.30 in	7.4 to 8.4
2C2 -- 57 to 60 in	gravelly sand	very rapid	0.08 to 0.17 in	7.4 to 8.4

J71A--Brookings silty clay loam, 1 to 3 percent slopes

Brookings

Extent: 75 to 85 percent of the unit
Landform(s): drainageways on till plains, flats on till plains
Slope gradient: 1 to 3 percent
Parent material: loess over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .28
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: high

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap	0 to 9 in	silty clay loam	moderate	1.63 to 1.99 in	6.1 to 7.3
Bw1,Bw2,Bw3	9 to 30 in	silty clay loam	moderate	3.34 to 3.96 in	6.6 to 7.3
2BC,2C	30 to 60 in	clay loam	moderately slow	4.19 to 5.39 in	7.4 to 8.4

J72B--Renshaw-Sandberg complex, 2 to 6 percent slopes

Renshaw

Extent: 65 to 85 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 2 to 6 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	loam	moderate	1.42 to 1.56 in	6.1 to 7.3
Bw -- 7 to 15 in	loam	moderately rapid	1.34 to 1.50 in	6.6 to 7.3
2Bk -- 15 to 20 in	gravelly loamy sand	very rapid	0.26 to 0.36 in	7.4 to 8.4
2C -- 20 to 60 in	gravelly loamy sand	very rapid	1.59 to 2.39 in	7.4 to 8.4

Sandberg

Extent: 10 to 20 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 2 to 6 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .15
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2 -- 0 to 12 in	sandy loam	very rapid	1.54 to 1.77 in	6.1 to 7.8
Bk -- 12 to 28 in	gravelly sand	very rapid	0.48 to 0.81 in	7.4 to 8.4
C -- 28 to 80 in	gravelly sand	very rapid	1.56 to 2.60 in	7.4 to 8.4

J73D2--Buse clay loam, 12 to 18 percent slopes, moderately eroded

Buse, moderately eroded

Extent: 65 to 80 percent of the unit
Landform(s): hills on till plains
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	clay loam	moderately slow	1.20 to 1.35 in	7.4 to 8.4
ABk,Bk -- 7 to 22 in	clay loam	moderately slow	2.09 to 2.69 in	7.4 to 8.4
C -- 22 to 60 in	clay loam	moderately slow	5.29 to 6.80 in	7.4 to 8.4

J73E--Buse clay loam, 18 to 25 percent slopes

Buse

Extent: 75 to 85 percent of the unit
Landform(s): hills on till plains
Slope gradient: 18 to 25 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	clay loam	moderately slow	1.20 to 1.35 in	7.4 to 8.4
ABk,Bk -- 7 to 22 in	clay loam	moderately slow	2.09 to 2.69 in	7.4 to 8.4
C -- 22 to 60 in	clay loam	moderately slow	5.29 to 6.80 in	7.4 to 8.4

J73F--Buse clay loam, 25 to 40 percent slopes

Buse

Extent: 75 to 85 percent of the unit
Landform(s): hills on till plains
Slope gradient: 25 to 40 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 7e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	clay loam	moderately slow	1.20 to 1.35 in	7.4 to 8.4
ABk,Bk -- 7 to 22 in	clay loam	moderately slow	2.09 to 2.69 in	7.4 to 8.4
C -- 22 to 60 in	clay loam	moderately slow	5.29 to 6.80 in	7.4 to 8.4

J74A--Estelline silty clay loam, 0 to 2 percent slopes

Estelline

Extent: 75 to 85 percent of the unit
Landform(s): flats on outwash plains
Slope gradient: 0 to 2 percent
Parent material: loess over outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .28
Land capability, nonirrigated 2s
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,AB -- 0 to 10 in	silty clay loam	moderate	1.77 to 2.17 in	6.1 to 7.3
Bw1,Bw2,Bw3 -- 10 to 30 in	silty clay loam	moderate	3.21 to 3.81 in	6.1 to 7.3
2C -- 30 to 60 in	gravelly sand	very rapid	0.90 to 1.80 in	7.4 to 8.4

J74B--Estelline silty clay loam, 2 to 6 percent slopes

Estelline

Extent: 80 to 90 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 2 to 6 percent
Parent material: loess over outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,AB -- 0 to 10 in	silty clay loam	moderate	1.77 to 2.17 in	6.1 to 7.3
Bw1,Bw2,Bw3 -- 10 to 30 in	silty clay loam	moderate	3.21 to 3.81 in	6.1 to 7.3
2C -- 30 to 60 in	gravelly sand	very rapid	0.90 to 1.80 in	7.4 to 8.4

J75A--Fordville loam, 0 to 2 percent slopes

Fordville

Extent: 80 to 90 percent of the unit
Landform(s): flats on outwash plains
Slope gradient: 0 to 2 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2s
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 6 in	loam	moderate	1.18 to 1.30 in	6.1 to 7.3
Bw -- 6 to 24 in	loam	moderate	3.08 to 3.44 in	6.1 to 7.3
2C -- 24 to 80 in	gravelly loamy sand	very rapid	2.24 to 3.35 in	7.4 to 8.4

J75B--Fordville loam, 2 to 6 percent slopes

Fordville

Extent: 80 to 90 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 2 to 6 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 6 in	loam	moderate	1.18 to 1.30 in	6.1 to 7.3
Bw -- 6 to 24 in	loam	moderate	3.08 to 3.44 in	6.1 to 7.3
2C -- 24 to 80 in	gravelly loamy sand	very rapid	2.24 to 3.35 in	7.4 to 8.4

J78A--Lismore silty clay loam, 1 to 3 percent slopes

Lismore

Extent: 65 to 85 percent of the unit
Landform(s): hills on till plains
Slope gradient: 1 to 3 percent
Parent material: loess over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .28
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	silty clay loam	moderate	1.42 to 1.73 in	6.1 to 7.3
A -- 8 to 17 in	silty clay loam	moderate	1.63 to 1.99 in	6.1 to 7.3
2Bw1,2Bw2 -- 17 to 32 in	clay loam	moderately slow	2.24 to 2.84 in	6.1 to 7.3
2Bk -- 32 to 48 in	clay loam	moderately slow	2.26 to 2.91 in	7.4 to 8.4
2C -- 48 to 60 in	clay loam	moderately slow	1.65 to 2.13 in	7.4 to 8.4

J79B--Vienna-Brookings complex, 1 to 4 percent slopes

Vienna, occasional saturation

Extent: 45 to 65 percent of the unit
Landform(s): hills on till plains
Slope gradient: 1 to 4 percent
Parent material: loess over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	silty clay loam	moderate	1.77 to 2.17 in	6.1 to 7.3
Bw -- 10 to 15 in	silty clay loam	moderate	0.82 to 0.97 in	6.1 to 7.3
2Bw -- 15 to 23 in	clay loam	moderately slow	1.10 to 1.42 in	6.1 to 7.3
2Bk,2C -- 23 to 60 in	clay loam	moderately slow	5.18 to 6.66 in	7.4 to 8.4

Brookings

Extent: 25 to 45 percent of the unit
Landform(s): hills on till plains
Slope gradient: 1 to 4 percent
Parent material: loess over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .28
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	silty clay loam	moderate	1.63 to 1.99 in	6.1 to 7.3
Bw1,Bw2,Bw3 -- 9 to 30 in	silty clay loam	moderate	3.34 to 3.96 in	6.6 to 7.3
2BC,2C -- 30 to 60 in	clay loam	moderately slow	4.19 to 5.39 in	7.4 to 8.4

J80A--Lamoure-La Prairie complex, channeled, 0 to 2 percent slopes, frequently flooded

Lamoure, channeled, frequently flooded

Extent: 40 to 60 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 5w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2 -- 0 to 27 in	silty clay loam	moderate	4.89 to 5.98 in	7.4 to 8.4
Cg1 -- 27 to 34 in	silty clay loam	moderate	1.07 to 1.27 in	7.4 to 8.4
Cg2 -- 34 to 60 in	silt loam	moderate	5.20 to 5.72 in	7.4 to 8.4

La Prairie, channeled, frequently flooded

Extent: 30 to 50 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 5w
Hydric soil: yes
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	6.6 to 8.4
A -- 9 to 38 in	loam	moderate	5.83 to 6.41 in	6.6 to 8.4
Bw -- 38 to 50 in	loam	moderate	2.01 to 2.24 in	6.6 to 8.4
C -- 50 to 60 in	loam	moderate	1.67 to 1.87 in	7.4 to 8.4

J81C2--Renshaw-Barnes complex, 6 to 12 percent slopes, moderately eroded

Renshaw, moderately eroded

Extent: 60 to 80 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 6 to 12 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	loam	moderate	1.42 to 1.56 in	6.1 to 7.3
Bw -- 7 to 15 in	loam	moderately rapid	1.34 to 1.50 in	6.6 to 7.3
2Bk -- 15 to 20 in	gravelly loamy sand	very rapid	0.26 to 0.36 in	7.4 to 8.4
2C -- 20 to 60 in	gravelly loamy sand	very rapid	1.59 to 2.39 in	7.4 to 8.4

Barnes, moderately eroded

Extent: 10 to 30 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 11 in	clay loam	moderately slow	1.87 to 2.09 in	6.1 to 7.3
Bw -- 11 to 17 in	clay loam	moderately slow	0.89 to 1.12 in	6.1 to 7.3
Bk -- 17 to 31 in	clay loam	moderately slow	1.93 to 2.48 in	7.4 to 8.4
BC -- 31 to 60 in	clay loam	moderately slow	4.08 to 5.24 in	7.4 to 8.4

J83F--Sandberg-Buse-Everts complex, 12 to 40 percent slopes

Sandberg

Extent: 45 to 65 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 12 to 40 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .15
Land capability, nonirrigated 7e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2 -- 0 to 12 in	sandy loam	very rapid	1.54 to 1.77 in	6.1 to 7.8
Bk -- 12 to 28 in	gravelly sand	very rapid	0.48 to 0.81 in	7.4 to 8.4
C -- 28 to 80 in	gravelly sand	very rapid	1.56 to 2.60 in	7.4 to 8.4

Buse

Extent: 15 to 35 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 12 to 40 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 7e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	clay loam	moderately slow	1.20 to 1.35 in	7.4 to 8.4
ABk,Bk -- 7 to 22 in	clay loam	moderately slow	2.09 to 2.69 in	7.4 to 8.4
C -- 22 to 60 in	clay loam	moderately slow	5.29 to 6.80 in	7.4 to 8.4

J83F--Sandberg-Buse-Everts complex, 12 to 40 percent slopes

Everts

Extent: 10 to 20 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 12 to 40 percent
Parent material: colluvium
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,AB -- 0 to 38 in	loam	moderate	7.64 to 8.40 in	6.6 to 7.3
Bw -- 38 to 54 in	loam	moderate	2.68 to 2.99 in	6.1 to 7.3
2C -- 54 to 80 in	very gravelly coarse sand	very rapid	0.52 to 1.04 in	7.4 to 8.4

J84A--Strayhoss loam, 0 to 2 percent slopes

Strayhoss

Extent: 80 to 90 percent of the unit
Landform(s): flats on outwash plains
Slope gradient: 0 to 2 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2s
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	loam	moderate	1.42 to 1.56 in	6.1 to 7.3
Bw1,Bw2,Bw3 -- 7 to 30 in	silt loam	moderate	4.57 to 5.02 in	6.1 to 7.3
Bk -- 30 to 36 in	loam	moderate	1.00 to 1.12 in	7.4 to 8.4
2C1,2C2 -- 36 to 60 in	loamy sand	rapid	1.92 to 2.40 in	7.4 to 8.4

J84B--Strayhoss loam, 2 to 6 percent slopes

Strayhoss

Extent: 80 to 90 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 2 to 6 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:			*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap	--	0 to 7 in	loam	moderate	1.42 to 1.56 in	6.1 to 7.3
Bw1,Bw2,Bw3	--	7 to 30 in	silt loam	moderate	4.57 to 5.02 in	6.1 to 7.3
Bk	--	30 to 36 in	loam	moderate	1.00 to 1.12 in	7.4 to 8.4
2C1,2C2	--	36 to 60 in	loamy sand	rapid	1.92 to 2.40 in	7.4 to 8.4

J85A--Trosky silty clay loam, 0 to 2 percent slopes

Trosky

Extent: 85 to 95 percent of the unit
Landform(s): drainageways on outwash plains, flats on outwash plains
Slope gradient: 0 to 2 percent
Parent material: loess over outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A,AB -- 0 to 20 in	silty clay loam	moderate	3.61 to 4.42 in	7.4 to 8.4
Bkg1,Bkg2 -- 20 to 38 in	silty clay loam	moderate	2.90 to 3.44 in	7.4 to 8.4
2Cg -- 38 to 60 in	gravelly coarse sand	rapid	0.87 to 1.30 in	7.4 to 8.4

J86B--Vienna silty clay loam, 3 to 6 percent slopes

Vienna, occasional saturation

Extent: 80 to 90 percent of the unit
Landform(s): hills on till plains
Slope gradient: 3 to 6 percent
Parent material: loess over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	silty clay loam	moderate	1.77 to 2.17 in	6.1 to 7.3
Bw -- 10 to 15 in	silty clay loam	moderate	0.82 to 0.97 in	6.1 to 7.3
2Bw -- 15 to 23 in	clay loam	moderately slow	1.10 to 1.42 in	6.1 to 7.3
2Bk,2C -- 23 to 60 in	clay loam	moderately slow	5.18 to 6.66 in	7.4 to 8.4

J88B--Kranzburg silty clay loam, 3 to 6 percent slopes

Kranzburg, occasional saturation

Extent: 80 to 90 percent of the unit
Landform(s): hills on till plains
Slope gradient: 3 to 6 percent
Parent material: loess over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	silty clay loam	moderate	1.63 to 1.99 in	6.1 to 7.3
Bw1,Bw2 -- 9 to 25 in	silty clay loam	moderate	2.58 to 3.07 in	6.6 to 7.3
2Bk -- 25 to 57 in	clay loam	moderately slow	4.46 to 5.74 in	7.4 to 8.4
2C -- 57 to 60 in	clay loam	moderately slow	0.39 to 0.50 in	7.4 to 8.4

J89B--Lanona-Swenoda complex, 2 to 6 percent slopes

Lanona, occasional saturation

Extent: 40 to 60 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 2 to 6 percent
Parent material: outwash over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	fine sandy loam	moderately rapid	1.26 to 1.42 in	6.1 to 7.3
Bw1,Bw2 -- 8 to 28 in	fine sandy loam	moderately rapid	3.01 to 3.41 in	6.6 to 7.3
2Bk -- 28 to 42 in	loam	moderate	2.41 to 2.69 in	7.4 to 8.4
2C -- 42 to 60 in	loam	moderate	3.01 to 3.37 in	7.4 to 8.4

Swenoda

Extent: 30 to 50 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 2 to 6 percent
Parent material: outwash over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 17 in	sandy loam	moderately rapid	2.20 to 2.54 in	6.1 to 7.3
Bw -- 17 to 29 in	sandy loam	moderately rapid	1.46 to 1.71 in	6.6 to 7.3
2C -- 29 to 80 in	silt loam	moderate	10.16 to 11.17 in	7.4 to 8.4

J90B--Kranzburg-Brookings complex, 1 to 4 percent slopes

Kranzburg, occasional saturation

Extent: 45 to 65 percent of the unit
Landform(s): hills on till plains
Slope gradient: 1 to 4 percent
Parent material: loess over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	silty clay loam	moderate	1.63 to 1.99 in	6.1 to 7.3
Bw1,Bw2 -- 9 to 25 in	silty clay loam	moderate	2.58 to 3.07 in	6.6 to 7.3
2Bk -- 25 to 57 in	clay loam	moderately slow	4.46 to 5.74 in	7.4 to 8.4
2C -- 57 to 60 in	clay loam	moderately slow	0.39 to 0.50 in	7.4 to 8.4

Brookings

Extent: 25 to 45 percent of the unit
Landform(s): hills on till plains
Slope gradient: 1 to 4 percent
Parent material: loess over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .28
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	silty clay loam	moderate	1.63 to 1.99 in	6.1 to 7.3
Bw1,Bw2,Bw3 -- 9 to 30 in	silty clay loam	moderate	3.34 to 3.96 in	6.6 to 7.3
2BC,2C -- 30 to 60 in	clay loam	moderately slow	4.19 to 5.39 in	7.4 to 8.4

J91B--Darnen loam, stratified substratum, 2 to 6 percent slopes

Darnen, stratified substratum

Extent: 85 to 95 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: colluvium
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1,A2 -- 0 to 30 in	loam	moderate	5.98 to 6.58 in	6.6 to 7.3
Bk1,Bk2 -- 30 to 62 in	loam	moderate	5.42 to 6.06 in	7.4 to 8.4
C1 -- 62 to 74 in	loamy sand	moderately rapid	0.98 to 1.59 in	7.4 to 8.4
C2 -- 74 to 80 in	clay loam	moderately slow	0.77 to 1.12 in	7.4 to 8.4

J92C2--Buse-Vienna complex, 6 to 12 percent slopes, moderately eroded

Buse, moderately eroded

Extent: 45 to 55 percent of the unit
Landform(s): hills on till plains
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	clay loam	moderately slow	1.20 to 1.35 in	7.4 to 8.4
ABk,Bk -- 7 to 22 in	clay loam	moderately slow	2.09 to 2.69 in	7.4 to 8.4
C -- 22 to 60 in	clay loam	moderately slow	5.29 to 6.80 in	7.4 to 8.4

Vienna, moderately eroded

Extent: 15 to 25 percent of the unit
Landform(s): hills on till plains
Slope gradient: 6 to 12 percent
Parent material: loess over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .28
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	silty clay loam	moderate	1.77 to 2.17 in	6.1 to 7.3
Bw -- 10 to 15 in	silty clay loam	moderate	0.82 to 0.97 in	6.1 to 7.3
2Bw -- 15 to 23 in	clay loam	moderately slow	1.10 to 1.42 in	6.1 to 7.3
2Bk,2C -- 23 to 60 in	clay loam	moderately slow	5.18 to 6.66 in	7.4 to 8.4

J93A--Hidewood-Badger complex, 0 to 2 percent slopes

Hidewood

Extent: 40 to 60 percent of the unit
Landform(s): flats on till plains, drainageways on till plains
Slope gradient: 0 to 2 percent
Parent material: loess over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	silty clay loam	moderate	1.42 to 1.73 in	7.4 to 8.4
A -- 8 to 27 in	silty clay loam	moderate	3.47 to 4.24 in	7.4 to 8.4
Cg -- 27 to 42 in	silty clay loam	moderate	2.39 to 2.84 in	7.4 to 8.4
2Cg -- 42 to 80 in	clay loam	moderately slow	5.29 to 6.80 in	7.4 to 8.4

Badger

Extent: 20 to 40 percent of the unit
Landform(s): drainageways on till plains
Slope gradient: 0 to 2 percent
Parent material: loess over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .37
Land capability, nonirrigated 2w
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	silty clay loam	moderately slow	1.63 to 1.99 in	6.1 to 7.3
Bt1,Bt2 -- 9 to 35 in	silty clay	slow	3.38 to 4.16 in	6.1 to 7.3
BCg,Cg -- 35 to 55 in	silty clay loam	moderately slow	3.21 to 3.81 in	6.6 to 8.4
2Cg -- 55 to 60 in	clay loam	moderately slow	0.66 to 0.76 in	7.4 to 8.4

J95E--Buse, stony-Wilno complex, 18 to 25 percent slopes

Buse, stony

Extent: 65 to 85 percent of the unit
Landform(s): hills on moraines
Slope gradient: 18 to 25 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 8 in	loam	moderate	1.57 to 1.73 in	7.4 to 8.4
Bk -- 8 to 37 in	loam	moderate	4.37 to 5.54 in	7.4 to 8.4
C -- 37 to 80 in	loam	moderately slow	6.44 to 8.15 in	7.4 to 8.4

Wilno

Extent: 10 to 20 percent of the unit
Landform(s): hills on moraines
Slope gradient: 18 to 25 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 42 in	loam	moderate	8.43 to 9.27 in	6.1 to 7.3
AB -- 42 to 52 in	loam	moderate	1.67 to 1.87 in	6.1 to 7.3
Bw1,Bw2 -- 52 to 80 in	loam	moderate	4.75 to 5.31 in	6.1 to 7.3

J95F--Buse, stony-Wilno complex, 25 to 40 percent slopes

Buse, stony

Extent: 65 to 85 percent of the unit
Landform(s): hills on moraines
Slope gradient: 25 to 40 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 7e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 8 in	loam	moderate	1.57 to 1.73 in	7.4 to 8.4
Bk -- 8 to 37 in	loam	moderate	4.37 to 5.54 in	7.4 to 8.4
C -- 37 to 80 in	loam	moderately slow	6.44 to 8.15 in	7.4 to 8.4

Wilno

Extent: 10 to 20 percent of the unit
Landform(s): hills on moraines
Slope gradient: 25 to 40 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 7e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 42 in	loam	moderate	8.43 to 9.27 in	6.1 to 7.3
AB -- 42 to 52 in	loam	moderate	1.67 to 1.87 in	6.1 to 7.3
Bw1,Bw2 -- 52 to 80 in	loam	moderate	4.75 to 5.31 in	6.1 to 7.3

J96B--Barnes-Buse complex, 3 to 6 percent slopes

Barnes, occasional saturation

Extent: 55 to 75 percent of the unit
Landform(s): hills on moraines, hills on till plains
Slope gradient: 3 to 6 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 11 in	loam	moderate	2.20 to 2.43 in	6.1 to 7.3
Bw -- 11 to 26 in	loam	moderate	2.54 to 2.84 in	6.1 to 7.3
Bk -- 26 to 44 in	loam	moderate	2.72 to 3.44 in	7.4 to 8.4
C -- 44 to 80 in	loam	moderately slow	5.37 to 6.81 in	7.4 to 8.4

Buse

Extent: 10 to 20 percent of the unit
Landform(s): hills on moraines, hills on till plains
Slope gradient: 3 to 6 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	loam	moderate	1.57 to 1.73 in	7.4 to 8.4
Bk -- 8 to 40 in	loam	moderate	4.84 to 6.13 in	7.4 to 8.4
C -- 40 to 60 in	loam	moderately slow	2.95 to 3.74 in	7.4 to 8.4

J96C2--Barnes-Buse complex, 6 to 12 percent slopes, moderately eroded

Barnes, moderately eroded

Extent: 40 to 60 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	loam	moderate	1.42 to 1.56 in	6.1 to 7.3
Bw1,Bw2 -- 7 to 19 in	loam	moderate	2.01 to 2.24 in	6.1 to 7.3
Bk -- 19 to 37 in	loam	moderate	2.72 to 3.44 in	7.4 to 8.4
C -- 37 to 60 in	loam	moderately slow	3.43 to 4.34 in	7.4 to 8.4

Buse, moderately eroded

Extent: 20 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	loam	moderate	1.57 to 1.73 in	7.4 to 8.4
Bk1,Bk2 -- 8 to 40 in	loam	moderate	4.84 to 6.13 in	7.4 to 8.4
C -- 40 to 60 in	loam	moderately slow	2.95 to 3.74 in	7.4 to 8.4

J97B--Singsaas-Oak Lake complex, 1 to 6 percent slopes

Singsaas, occasional saturation

Extent: 55 to 75 percent of the unit
Landform(s): hills on till plains
Slope gradient: 1 to 6 percent
Parent material: lacustrine deposits over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	silty clay loam	moderate	1.63 to 1.99 in	6.1 to 7.3
AB -- 9 to 13 in	silty clay loam	moderate	0.71 to 0.87 in	6.1 to 7.3
Bw -- 13 to 19 in	silty clay loam	moderate	0.94 to 1.12 in	6.6 to 7.3
2Bk -- 19 to 41 in	loam	moderately slow	3.31 to 4.19 in	7.4 to 8.4
2C -- 41 to 80 in	loam	moderately slow	5.85 to 7.41 in	7.4 to 8.4

Oak Lake

Extent: 15 to 25 percent of the unit
Landform(s): swales on till plains, flats on till plains
Slope gradient: 1 to 3 percent
Parent material: lacustrine deposits over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	silty clay loam	moderate	1.42 to 1.73 in	6.1 to 7.3
AB -- 8 to 16 in	silty clay loam	moderate	1.49 to 1.82 in	6.1 to 7.3
Bw -- 16 to 22 in	silty clay loam	moderate	0.94 to 1.12 in	6.6 to 7.3
Bk -- 22 to 30 in	silty clay loam	moderate	1.26 to 1.50 in	7.4 to 8.4
2C -- 30 to 80 in	clay loam	moderately slow	7.00 to 9.00 in	7.4 to 8.4

J98A--Parnell silty clay loam, 0 to 2 percent slopes

Parnell

Extent: 80 to 95 percent of the unit
Landform(s): depressions on lake plains, depressions on moraines, depressions on till plains
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .37
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 16 in	silty clay loam	moderately slow	2.91 to 3.55 in	6.1 to 7.3
Btg -- 16 to 40 in	silty clay	slow	3.12 to 3.84 in	6.1 to 7.3
BCg -- 40 to 80 in	silty clay loam	slow	6.36 to 7.56 in	6.6 to 8.4

J99A--Lakepark clay loam, 0 to 3 percent slopes, overwash

Lakepark, overwash

Extent: 75 to 95 percent of the unit
Landform(s): drainageways on moraines
Slope gradient: 0 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2w
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	clay loam	moderate	1.34 to 1.50 in	6.1 to 7.3
A -- 8 to 40 in	clay loam	moderate	5.49 to 6.13 in	6.1 to 7.3
Bg -- 40 to 60 in	clay loam	moderate	2.95 to 3.74 in	6.6 to 7.3
Cg -- 60 to 80 in	loam	moderately slow	3.01 to 3.81 in	7.4 to 8.4

J100D2--Buse, eroded-Wilno complex, 12 to 18 percent slopes

Buse, moderately eroded

Extent: 60 to 80 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	loam	moderate	1.57 to 1.73 in	7.4 to 8.4
Bk1,Bk2 -- 8 to 40 in	loam	moderate	4.84 to 6.13 in	7.4 to 8.4
C -- 40 to 60 in	loam	moderately slow	2.95 to 3.74 in	7.4 to 8.4

Wilno

Extent: 10 to 20 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 42 in	loam	moderate	8.43 to 9.27 in	6.1 to 7.3
AB -- 42 to 52 in	loam	moderate	1.67 to 1.87 in	6.1 to 7.3
Bw1,Bw2 -- 52 to 80 in	loam	moderate	4.75 to 5.31 in	6.1 to 7.3

J101B--Hokans-Svea complex, 1 to 4 percent slopes

Hokans

Extent: 60 to 80 percent of the unit
Landform(s): hills on moraines
Slope gradient: 1 to 4 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 15 in	loam	moderate	2.99 to 3.29 in	6.1 to 7.3
Bw -- 15 to 22 in	loam	moderate	1.20 to 1.35 in	6.1 to 7.3
Bk -- 22 to 40 in	loam	moderate	2.72 to 3.44 in	7.4 to 8.4
C -- 40 to 80 in	loam	moderately slow	5.96 to 7.56 in	7.4 to 8.4

Svea

Extent: 15 to 25 percent of the unit
Landform(s): swales on moraines, flats on moraines
Slope gradient: 1 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 10 in	loam	moderate	1.97 to 2.17 in	6.1 to 7.3
Bw -- 10 to 21 in	loam	moderate	1.87 to 2.09 in	6.6 to 7.3
Bk -- 21 to 36 in	clay loam	moderate	2.24 to 2.84 in	7.4 to 8.4
C -- 36 to 60 in	loam	moderately slow	3.60 to 4.56 in	7.4 to 8.4

J102A--Oak Lake silty clay loam, 1 to 3 percent slopes

Oak Lake

Extent: 70 to 90 percent of the unit
Landform(s): swales on till plains, flats on till plains
Slope gradient: 1 to 3 percent
Parent material: lacustrine deposits over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	silty clay loam	moderate	1.42 to 1.73 in	6.1 to 7.3
AB -- 8 to 16 in	silty clay loam	moderate	1.49 to 1.82 in	6.1 to 7.3
Bw -- 16 to 22 in	silty clay loam	moderate	0.94 to 1.12 in	6.6 to 7.3
Bk -- 22 to 30 in	silty clay loam	moderate	1.26 to 1.50 in	7.4 to 8.4
2C -- 30 to 80 in	clay loam	moderately slow	7.00 to 9.00 in	7.4 to 8.4

J103A--Winger silty clay loam, 0 to 2 percent slopes

Winger

Extent: 70 to 90 percent of the unit
Landform(s): rims on depressions on lake plains, flats on lake plains, drainageways on lake plains
Slope gradient: 0 to 2 percent
Parent material: lacustrine deposits over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	silty clay loam	moderate	1.28 to 1.56 in	7.4 to 8.4
Ak -- 7 to 22 in	silt loam	moderate	3.29 to 3.59 in	7.4 to 8.4
Bkg -- 22 to 27 in	silt loam	moderate	1.02 to 1.13 in	7.4 to 8.4
Cg1 -- 27 to 31 in	silt loam	moderate	0.79 to 0.87 in	7.4 to 8.4
2Cg2 -- 31 to 80 in	loam	moderately slow	7.32 to 9.28 in	7.4 to 8.4

J104A--Svea loam, 1 to 3 percent slopes

Svea

Extent: 65 to 85 percent of the unit
Landform(s): swales on moraines, flats on moraines
Slope gradient: 1 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 10 in	loam	moderate	1.97 to 2.17 in	6.1 to 7.3
Bw -- 10 to 21 in	loam	moderate	1.87 to 2.09 in	6.6 to 7.3
Bk -- 21 to 36 in	clay loam	moderate	2.24 to 2.84 in	7.4 to 8.4
C -- 36 to 60 in	loam	moderately slow	3.60 to 4.56 in	7.4 to 8.4

J105A--Arvilla sandy loam, 0 to 2 percent slopes

Arvilla

Extent: 75 to 95 percent of the unit
Landform(s): flats on outwash plains
Slope gradient: 0 to 2 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3s
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	sandy loam	moderately rapid	1.18 to 1.36 in	6.1 to 7.3
Bw -- 9 to 14 in	sandy loam	moderately rapid	0.61 to 0.72 in	6.6 to 7.3
2Bk -- 14 to 48 in	gravelly sand	very rapid	0.68 to 1.69 in	7.4 to 8.4
2C -- 48 to 80 in	gravelly sand	very rapid	0.64 to 1.59 in	7.4 to 8.4

J106B--Barnes-Buse-Svea complex, 1 to 6 percent slopes

Barnes, occasional saturation

Extent: 50 to 70 percent of the unit
Landform(s): hills on moraines, hills on till plains
Slope gradient: 3 to 6 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 11 in	loam	moderate	2.20 to 2.43 in	6.1 to 7.3
Bw -- 11 to 26 in	loam	moderate	2.54 to 2.84 in	6.1 to 7.3
Bk -- 26 to 44 in	loam	moderate	2.72 to 3.44 in	7.4 to 8.4
C -- 44 to 80 in	loam	moderately slow	5.37 to 6.81 in	7.4 to 8.4

Buse

Extent: 10 to 20 percent of the unit
Landform(s): hills on moraines, hills on till plains
Slope gradient: 3 to 6 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	loam	moderate	1.57 to 1.73 in	7.4 to 8.4
Bk1,Bk2 -- 8 to 40 in	loam	moderate	4.84 to 6.13 in	7.4 to 8.4
C -- 40 to 60 in	loam	moderately slow	2.95 to 3.74 in	7.4 to 8.4

J106B--Barnes-Buse-Svea complex, 1 to 6 percent slopes

Svea

Extent: 10 to 20 percent of the unit
Landform(s): swales on moraines, flats on moraines, swales on till plains, flats on till plains
Slope gradient: 1 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
Ap,A --	0 to 10 in	loam	moderate	1.97 to 2.17 in	6.1 to 7.3
Bw --	10 to 21 in	loam	moderate	1.87 to 2.09 in	6.6 to 7.3
Bk --	21 to 36 in	clay loam	moderate	2.24 to 2.84 in	7.4 to 8.4
C --	36 to 60 in	loam	moderately slow	3.60 to 4.56 in	7.4 to 8.4

J107A--Lakepark-Roliss-Parnell, depressional, complex, 0 to 3 percent slopes

Lakepark

Extent: 30 to 40 percent of the unit
Landform(s): drainageways on moraines
Slope gradient: 0 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	loam	moderate	1.57 to 1.73 in	6.1 to 7.3
A -- 8 to 27 in	loam	moderate	3.86 to 4.24 in	6.1 to 7.3
Bg -- 27 to 41 in	loam	moderate	2.34 to 2.62 in	6.6 to 7.3
Cg -- 41 to 80 in	loam	moderately slow	5.85 to 7.41 in	7.4 to 8.4

Roliss

Extent: 20 to 30 percent of the unit
Landform(s): drainageways on moraines, flats on moraines, rims on moraines
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.36 to 1.72 in	7.4 to 8.4
A -- 9 to 14 in	clay loam	moderate	0.87 to 0.97 in	7.4 to 8.4
Bg -- 14 to 20 in	clay loam	moderate	1.00 to 1.12 in	7.4 to 8.4
Cg -- 20 to 80 in	loam	moderately slow	8.98 to 11.37 in	7.4 to 8.4

J107A--Lakepark-Roliss-Parnell, depressional, complex, 0 to 3 percent slopes

Parnell, depressional

Extent: 10 to 20 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .37
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2 -- 0 to 22 in	silty clay loam	moderately slow	3.97 to 4.85 in	6.1 to 7.3
Btg -- 22 to 55 in	silty clay	slow	4.30 to 5.29 in	6.1 to 7.3
BCg -- 55 to 80 in	silty clay loam	slow	3.97 to 4.71 in	6.6 to 8.4

J195B--Poinsett silty clay loam, 2 to 6 percent slopes

Poinsett, occasional saturation

Extent: 70 to 90 percent of the unit
Landform(s): hills on lake plains
Slope gradient: 2 to 6 percent
Parent material: lacustrine deposits
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	silty clay loam	moderate	1.42 to 1.73 in	6.1 to 7.3
Bw -- 8 to 23 in	silty clay loam	moderate	2.39 to 2.84 in	6.1 to 7.3
Bk -- 23 to 62 in	silty clay loam	moderate	6.24 to 7.41 in	7.4 to 8.4
2C -- 62 to 80 in	clay loam	moderately slow	2.54 to 3.26 in	7.4 to 8.4

J197B--Lake Benton sandy loam, 2 to 6 percent slopes

Lake Benton, occasional saturation

Extent: 65 to 85 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: outwash over lacustrine deposits
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	sandy loam	moderately rapid	1.28 to 1.48 in	6.1 to 7.3
Bw -- 10 to 21 in	sandy loam	moderately rapid	1.32 to 1.54 in	6.6 to 7.3
Bk -- 21 to 25 in	sandy loam	moderately rapid	0.52 to 0.61 in	7.4 to 8.4
C -- 25 to 42 in	sand	rapid	0.85 to 1.19 in	7.4 to 8.4
2C -- 42 to 80 in	silt loam	moderate	6.43 to 7.56 in	7.4 to 8.4

J197C--Lake Benton sandy loam, 6 to 12 percent slopes

Lake Benton

Extent: 65 to 85 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: outwash over lacustrine deposits
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	sandy loam	moderately rapid	1.28 to 1.48 in	6.1 to 7.3
Bw -- 10 to 21 in	sandy loam	moderately rapid	1.32 to 1.54 in	6.6 to 7.3
Bk -- 21 to 25 in	sandy loam	moderately rapid	0.52 to 0.61 in	7.4 to 8.4
C -- 25 to 42 in	sand	rapid	0.85 to 1.19 in	7.4 to 8.4
2C -- 42 to 80 in	silt loam	moderate	6.43 to 7.56 in	7.4 to 8.4

J198C2--Rusklyn-Poinsett complex, 6 to 12 percent slopes, moderately eroded

Rusklyn, moderately eroded

Extent: 40 to 50 percent of the unit
Landform(s): hills on lake plains
Slope gradient: 6 to 12 percent
Parent material: lacustrine deposits
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	silty clay loam	moderate	1.63 to 1.99 in	7.4 to 8.4
Bk -- 9 to 28 in	silty clay loam	moderate	3.02 to 3.59 in	7.4 to 8.4
C1 -- 28 to 53 in	silty clay loam	moderate	4.03 to 4.79 in	7.4 to 8.4
2C2 -- 53 to 80 in	clay loam	moderately slow	3.75 to 4.82 in	7.4 to 8.4

Poinsett, moderately eroded

Extent: 35 to 45 percent of the unit
Landform(s): hills on lake plains
Slope gradient: 6 to 12 percent
Parent material: lacustrine deposits
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .28
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	silty clay loam	moderate	1.42 to 1.73 in	6.1 to 7.3
Bw -- 8 to 23 in	silty clay loam	moderate	2.39 to 2.84 in	6.1 to 7.3
Bk -- 23 to 62 in	silty clay loam	moderate	6.24 to 7.41 in	7.4 to 8.4
2C -- 62 to 80 in	clay loam	moderately slow	2.54 to 3.26 in	7.4 to 8.4

J199A--Fulda silty clay, 0 to 2 percent slopes

Fulda

Extent: 75 to 95 percent of the unit
Landform(s): flats on moraines, drainageways on moraines
Slope gradient: 0 to 2 percent
Parent material: lacustrine deposits
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 13 in	silty clay	slow	1.69 to 2.21 in	6.1 to 7.3
Bg -- 13 to 33 in	silty clay	slow	2.01 to 3.81 in	6.6 to 7.3
Bkg -- 33 to 40 in	silty clay	slow	0.71 to 1.35 in	7.4 to 8.4
Cg -- 40 to 60 in	silty clay	slow	1.97 to 3.74 in	7.4 to 8.4

J227D2--Buse, moderately eroded-Sandberg complex, 12 to 18 percent slopes

Buse, moderately eroded

Extent: 40 to 60 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	loam	moderate	1.57 to 1.73 in	7.4 to 8.4
Bk1,Bk2 -- 8 to 40 in	loam	moderate	4.84 to 6.13 in	7.4 to 8.4
C -- 40 to 60 in	loam	moderately slow	2.95 to 3.74 in	7.4 to 8.4

Sandberg

Extent: 20 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .15
Land capability, nonirrigated 7e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2 -- 0 to 12 in	sandy loam	very rapid	1.54 to 1.77 in	6.1 to 7.8
Bk -- 12 to 28 in	gravelly sand	very rapid	0.32 to 0.97 in	7.4 to 8.4
C -- 28 to 80 in	gravelly sand	very rapid	1.04 to 3.12 in	7.4 to 8.4

J227F--Buse-Sandberg complex, 18 to 40 percent slopes

Buse

Extent: 40 to 60 percent of the unit
Landform(s): hills on moraines
Slope gradient: 18 to 40 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 7e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 8 in	loam	moderate	1.57 to 1.73 in	7.4 to 8.4
Bk -- 8 to 37 in	loam	moderate	4.37 to 5.54 in	7.4 to 8.4
C -- 37 to 80 in	loam	moderately slow	6.44 to 8.15 in	7.4 to 8.4

Sandberg

Extent: 20 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 18 to 40 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .15
Land capability, nonirrigated 7e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2 -- 0 to 12 in	sandy loam	very rapid	1.54 to 1.77 in	6.1 to 7.8
Bk -- 12 to 28 in	gravelly sand	very rapid	0.32 to 0.97 in	7.4 to 8.4
C -- 28 to 80 in	gravelly sand	very rapid	1.04 to 3.12 in	7.4 to 8.4

J232B--Barnes-Buse-Arvilla complex, 2 to 6 percent slopes

Barnes, occasional saturation

Extent: 30 to 40 percent of the unit
Landform(s): hills on moraines, hills on till plains
Slope gradient: 2 to 6 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 11 in	loam	moderate	2.20 to 2.43 in	6.1 to 7.3
Bw -- 11 to 26 in	loam	moderate	2.54 to 2.84 in	6.1 to 7.3
Bk -- 26 to 44 in	loam	moderate	2.72 to 3.44 in	7.4 to 8.4
C -- 44 to 80 in	loam	moderately slow	5.37 to 6.81 in	7.4 to 8.4

Buse

Extent: 25 to 35 percent of the unit
Landform(s): hills on moraines, hills on till plains
Slope gradient: 3 to 6 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	loam	moderate	1.57 to 1.73 in	7.4 to 8.4
Bk1,Bk2 -- 8 to 40 in	loam	moderate	4.84 to 6.13 in	7.4 to 8.4
C -- 40 to 60 in	loam	moderately slow	2.95 to 3.74 in	7.4 to 8.4

J232B--Barnes-Buse-Arvilla complex, 2 to 6 percent slopes

Arvilla

Extent: 20 to 30 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	sandy loam	moderately rapid	1.18 to 1.36 in	6.1 to 7.3
Bw -- 9 to 14 in	sandy loam	moderately rapid	0.61 to 0.72 in	6.6 to 7.3
2Bk -- 14 to 48 in	gravelly sand	very rapid	0.68 to 1.69 in	7.4 to 8.4
2C -- 48 to 80 in	gravelly sand	very rapid	0.64 to 1.59 in	7.4 to 8.4

J235C2--Buse-Barnes-Arvilla complex, 6 to 12 percent slopes, moderately eroded

Buse, moderately eroded

Extent: 30 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	loam	moderate	1.57 to 1.73 in	7.4 to 8.4
Bk1,Bk2 -- 8 to 40 in	loam	moderate	4.84 to 6.13 in	7.4 to 8.4
C -- 40 to 60 in	loam	moderately slow	2.95 to 3.74 in	7.4 to 8.4

Barnes, moderately eroded

Extent: 25 to 35 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	loam	moderate	1.42 to 1.56 in	6.1 to 7.3
Bw1,Bw2 -- 7 to 19 in	loam	moderate	2.01 to 2.24 in	6.1 to 7.3
Bk -- 19 to 37 in	loam	moderate	2.72 to 3.44 in	7.4 to 8.4
C -- 37 to 60 in	loam	moderately slow	3.43 to 4.34 in	7.4 to 8.4

J235C2--Buse-Barnes-Arvilla complex, 6 to 12 percent slopes, moderately eroded

Arvilla

Extent: 20 to 30 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	sandy loam	moderately rapid	1.18 to 1.36 in	6.1 to 7.3
Bw -- 9 to 14 in	sandy loam	moderately rapid	0.61 to 0.72 in	6.6 to 7.3
2Bk -- 14 to 48 in	gravelly sand	very rapid	0.68 to 1.69 in	7.4 to 8.4
2C -- 48 to 80 in	gravelly sand	very rapid	0.64 to 1.59 in	7.4 to 8.4

J236A--Highpoint Lake silty clay, 0 to 2 percent slopes

Highpoint Lake

Extent: 80 to 95 percent of the unit
Landform(s): flats on moraines
Slope gradient: 0 to 2 percent
Parent material: lacustrine deposits
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2s
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 18 in	silty clay	slow	2.35 to 3.08 in	6.1 to 7.3
Bw -- 18 to 25 in	silty clay	slow	0.71 to 1.35 in	6.6 to 7.3
Bk -- 25 to 53 in	silty clay loam	slow	2.80 to 5.31 in	7.4 to 8.4
C -- 53 to 80 in	silty clay loam	slow	2.68 to 5.09 in	7.4 to 8.4

J237A--Brensall-Tress complex, 0 to 2 percent slopes

Brensall

Extent: 60 to 80 percent of the unit
Landform(s): flats on till plains
Slope gradient: 1 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	clay loam	moderately slow	1.34 to 1.50 in	6.1 to 7.3
Bt -- 8 to 15 in	clay loam	moderately slow	1.06 to 1.35 in	6.6 to 7.3
Bk -- 15 to 48 in	clay loam	moderately slow	4.63 to 5.29 in	7.4 to 8.4
BC -- 48 to 80 in	clay loam	moderately slow	4.46 to 5.10 in	7.4 to 8.4

Tress

Extent: 15 to 25 percent of the unit
Landform(s): swales on till plains
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 20 in	clay loam	moderately slow	3.41 to 3.81 in	6.1 to 7.3
Bt -- 20 to 36 in	clay loam	moderately slow	2.36 to 2.99 in	6.6 to 7.3
Bk -- 36 to 48 in	clay loam	moderately slow	1.71 to 1.95 in	7.4 to 8.4
BC -- 48 to 80 in	clay loam	moderately slow	4.46 to 5.10 in	7.4 to 8.4

J237B--Brensall-Tress complex, 1 to 4 percent slopes

Brensall

Extent: 50 to 70 percent of the unit
Landform(s): flats on till plains
Slope gradient: 1 to 4 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	clay loam	moderately slow	1.34 to 1.50 in	6.1 to 7.3
Bt -- 8 to 15 in	clay loam	moderately slow	1.06 to 1.35 in	6.6 to 7.3
Bk -- 15 to 48 in	clay loam	moderately slow	4.63 to 5.29 in	7.4 to 8.4
BC -- 48 to 80 in	clay loam	moderately slow	4.46 to 5.10 in	7.4 to 8.4

Tress

Extent: 20 to 30 percent of the unit
Landform(s): swales on till plains
Slope gradient: 1 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 20 in	clay loam	moderately slow	3.41 to 3.81 in	6.1 to 7.3
Bt -- 20 to 36 in	clay loam	moderately slow	2.36 to 2.99 in	6.6 to 7.3
Bk -- 36 to 48 in	clay loam	moderately slow	1.71 to 1.95 in	7.4 to 8.4
BC -- 48 to 80 in	clay loam	moderately slow	4.46 to 5.10 in	7.4 to 8.4

J238D2--Buse, firm till-Wilno complex, 12 to 18 percent slopes

Buse, firm till, moderately eroded

Extent: 50 to 70 percent of the unit
Landform(s): hills on till plains
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	clay loam	moderately slow	1.54 to 1.72 in	7.4 to 8.4
Bk -- 9 to 34 in	clay loam	moderately slow	3.47 to 3.97 in	7.4 to 8.4
BC -- 34 to 80 in	clay loam	moderately slow	6.45 to 7.37 in	7.4 to 8.4

Wilno

Extent: 15 to 25 percent of the unit
Landform(s): hills on till plains
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 42 in	loam	moderate	8.43 to 9.27 in	6.1 to 7.3
AB -- 42 to 52 in	loam	moderate	1.67 to 1.87 in	6.1 to 7.3
Bw1,Bw2 -- 52 to 80 in	loam	moderate	4.75 to 5.31 in	6.1 to 7.3

J238E--Buse, firm till-Wilno complex, 18 to 25 percent slopes

Buse, firm till

Extent: 65 to 85 percent of the unit
Landform(s): hills on till plains
Slope gradient: 18 to 25 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	clay loam	moderately slow	1.54 to 1.72 in	7.4 to 8.4
Bk -- 9 to 34 in	clay loam	moderately slow	3.47 to 3.97 in	7.4 to 8.4
BC -- 34 to 80 in	clay loam	moderately slow	6.45 to 7.37 in	7.4 to 8.4

Wilno

Extent: 10 to 20 percent of the unit
Landform(s): hills on till plains
Slope gradient: 18 to 25 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 42 in	loam	moderate	8.43 to 9.27 in	6.1 to 7.3
AB -- 42 to 52 in	loam	moderate	1.67 to 1.87 in	6.1 to 7.3
Bw1,Bw2 -- 52 to 80 in	loam	moderate	4.75 to 5.31 in	6.1 to 7.3

J238F--Buse, firm till-Wilno complex, 25 to 40 percent slopes

Buse, firm till

Extent: 65 to 85 percent of the unit
Landform(s): hills on till plains
Slope gradient: 25 to 40 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 7e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	clay loam	moderately slow	1.54 to 1.72 in	7.4 to 8.4
Bk -- 9 to 34 in	clay loam	moderately slow	3.47 to 3.97 in	7.4 to 8.4
BC -- 34 to 80 in	clay loam	moderately slow	6.45 to 7.37 in	7.4 to 8.4

Wilno

Extent: 10 to 20 percent of the unit
Landform(s): hills on moraines
Slope gradient: 25 to 40 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 7e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 42 in	loam	moderate	8.43 to 9.27 in	6.1 to 7.3
AB -- 42 to 52 in	loam	moderate	1.67 to 1.87 in	6.1 to 7.3
Bw1,Bw2 -- 52 to 80 in	loam	moderate	4.75 to 5.31 in	6.1 to 7.3

J240B--Forman-Aastad complex, 3 to 6 percent slopes

Forman, occasional saturation

Extent: 40 to 60 percent of the unit
Landform(s): hills on till plains
Slope gradient: 3 to 6 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	clay loam	moderately slow	1.34 to 1.50 in	6.6 to 7.3
Bt1 -- 8 to 14 in	clay loam	moderately slow	0.94 to 1.20 in	6.6 to 7.3
Bt2 -- 14 to 17 in	clay loam	moderately slow	0.41 to 0.52 in	6.6 to 7.3
Bk -- 17 to 44 in	clay loam	moderately slow	3.80 to 4.35 in	7.4 to 8.4
Bky -- 44 to 60 in	clay loam	moderately slow	2.20 to 2.52 in	7.4 to 8.4

Aastad

Extent: 15 to 25 percent of the unit
Landform(s): swales on till plains
Slope gradient: 1 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1,A2 -- 0 to 19 in	clay loam	moderately slow	3.21 to 3.59 in	6.1 to 7.3
Bw -- 19 to 32 in	clay loam	moderately slow	1.95 to 2.47 in	6.6 to 7.3
Bk -- 32 to 46 in	clay loam	moderately slow	1.98 to 2.27 in	7.4 to 8.4
BC -- 46 to 60 in	clay loam	moderately slow	1.93 to 2.20 in	7.4 to 8.4

J242F--Buse, firm till-Wilno-Lamoure, frequently flooded complex, 0 to 40 percent slopes

Buse, firm till

Extent: 55 to 75 percent of the unit
Landform(s): hills on till plains
Slope gradient: 12 to 40 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 7e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	clay loam	moderately slow	1.54 to 1.72 in	7.4 to 8.4
Bk -- 9 to 34 in	clay loam	moderately slow	3.47 to 3.97 in	7.4 to 8.4
C -- 34 to 80 in	clay loam	moderately slow	6.45 to 7.37 in	7.4 to 8.4

Wilno

Extent: 10 to 20 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 40 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 7e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 42 in	loam	moderate	8.43 to 9.27 in	6.1 to 7.3
AB -- 42 to 52 in	loam	moderate	1.67 to 1.87 in	6.1 to 7.3
Bw1,Bw2 -- 52 to 80 in	loam	moderate	4.75 to 5.31 in	6.1 to 7.3

J242F--Buse, firm till-Wilno-Lamoure, frequently flooded complex, 0 to 40 percent slopes

Lamoure, frequently flooded

Extent: 10 to 20 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 5w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2 -- 0 to 27 in	silty clay loam	moderate	4.89 to 5.98 in	7.4 to 8.4
Cg1 -- 27 to 34 in	silty clay loam	moderate	1.07 to 1.27 in	7.4 to 8.4
Cg2 -- 34 to 60 in	silt loam	moderate	5.20 to 5.72 in	7.4 to 8.4

J243A--Balaton clay loam, 1 to 3 percent slopes

Balaton

Extent: 85 to 95 percent of the unit
Landform(s): knolls on till plains
Slope gradient: 1 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 2s
Hydric soil: no
Hydrologic group: B
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	clay loam	moderately slow	1.67 to 1.87 in	7.4 to 8.4
Bk -- 10 to 28 in	clay loam	moderately slow	2.54 to 2.90 in	7.4 to 8.4
BC -- 28 to 60 in	clay loam	moderately slow	4.46 to 5.10 in	7.4 to 8.4

J250C2--Forman-Buse complex, 6 to 12 percent slopes, moderately eroded

Forman, moderately eroded

Extent: 40 to 50 percent of the unit
Landform(s): hills on till plains
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	clay loam	moderately slow	1.34 to 1.50 in	6.6 to 7.3
Bt1 -- 8 to 14 in	clay loam	moderately slow	0.94 to 1.20 in	6.6 to 7.3
Bt2 -- 14 to 17 in	clay loam	moderately slow	0.41 to 0.52 in	6.6 to 7.3
Bk -- 17 to 44 in	clay loam	moderately slow	3.80 to 4.35 in	7.4 to 8.4
Bky -- 44 to 60 in	clay loam	moderately slow	2.20 to 2.52 in	7.4 to 8.4

Buse, moderately eroded, firm till

Extent: 35 to 45 percent of the unit
Landform(s): hills on till plains
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	clay loam	moderately slow	1.54 to 1.72 in	7.4 to 8.4
Bk -- 9 to 34 in	clay loam	moderately slow	3.47 to 3.97 in	7.4 to 8.4
BC -- 34 to 80 in	clay loam	moderately slow	6.45 to 7.37 in	7.4 to 8.4

J251A--Parnell silty clay loam, firm till, 0 to 2 percent slopes

Parnell, firm till

Extent: 70 to 80 percent of the unit
Landform(s): drainageways on till plains
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .37
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 25 in	silty clay loam	moderately slow	4.54 to 5.54 in	6.1 to 7.3
Btg -- 25 to 44 in	silty clay	slow	2.46 to 3.02 in	6.1 to 7.3
Bkg -- 44 to 62 in	clay loam	moderately slow	2.48 to 2.83 in	7.4 to 8.4
BCg -- 62 to 80 in	clay loam	moderately slow	2.54 to 2.90 in	7.4 to 8.4

L73A--Blue Earth mucky silty clay loam, depressional, 0 to 1 percent slopes

Blue Earth, depressional

Extent: 70 to 90 percent of the unit
Landform(s): depressions on lake plains, depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: coprogenic material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	silty clay loam	moderate	1.77 to 2.36 in	7.4 to 8.4
Cg -- 10 to 68 in	silty clay loam	moderate	10.42 to 13.89 in	7.4 to 8.4
2Cg -- 68 to 80 in	loam	moderate	1.83 to 2.32 in	7.4 to 8.4

L78A--Canisteo clay loam, 0 to 2 percent slopes

Canisteo

Extent: 55 to 85 percent of the unit
Landform(s): rims on depressions on moraines, flats on moraines
Slope gradient: 0 to 2 percent
Parent material: fine-loamy till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 18 in	clay loam	moderate	3.26 to 3.98 in	7.4 to 8.4
Bkg -- 18 to 39 in	loam	moderate	2.50 to 3.76 in	7.4 to 8.4
Cg -- 39 to 80 in	loam	moderate	6.14 to 7.78 in	7.4 to 8.4

L83A--Webster clay loam, 0 to 2 percent slopes

Webster

Extent: 50 to 85 percent of the unit
Landform(s): flats on moraines, swales on moraines
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 19 in	clay loam	moderate	3.59 to 3.97 in	6.6 to 7.3
Bg -- 19 to 26 in	clay loam	moderate	1.13 to 1.28 in	6.6 to 7.8
BCg,Cg -- 26 to 60 in	loam	moderate	5.08 to 6.43 in	7.4 to 8.4

L84A--Glencoe clay loam, depressional, 0 to 1 percent slopes

Glencoe, depressional

Extent: 75 to 100 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 24 in	clay loam	moderate	4.32 to 5.28 in	6.1 to 7.8
ABg -- 24 to 35 in	clay loam	moderate	1.98 to 2.43 in	6.1 to 7.8
Bg -- 35 to 48 in	loam	moderate	1.95 to 2.47 in	6.6 to 7.8
Cg -- 48 to 60 in	loam	moderate	1.77 to 2.24 in	7.4 to 8.4

L96B--Estherville-Hawick complex, 2 to 6 percent slopes

Estherville

Extent: 40 to 65 percent of the unit
Landform(s): hills on outwash plains, hills on stream terraces
Slope gradient: 2 to 6 percent
Parent material: sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3s
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 13 in	sandy loam	moderately rapid	1.69 to 2.34 in	5.6 to 7.3
Bw1 -- 13 to 18 in	sandy loam	moderately rapid	0.61 to 0.85 in	5.6 to 7.3
2Bw2 -- 18 to 23 in	loamy coarse sand	rapid	0.10 to 0.20 in	5.6 to 7.3
2C -- 23 to 60 in	gravelly coarse sand	rapid	0.74 to 1.48 in	6.6 to 8.4

Hawick

Extent: 25 to 40 percent of the unit
Landform(s): hills on outwash plains, hills on stream terraces
Slope gradient: 2 to 6 percent
Parent material: sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 86
Kw factor (surface layer) .17
Land capability, nonirrigated 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	sandy loam	moderately rapid	0.92 to 1.06 in	6.1 to 7.8
Bw -- 7 to 11 in	gravelly loamy coarse sand	rapid	0.12 to 0.39 in	6.1 to 7.8
C -- 11 to 80 in	gravelly coarse sand	very rapid	1.38 to 4.13 in	7.4 to 8.4

L129B--Terril loam, 2 to 6 percent slopes

Terril

Extent: 80 to 95 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: colluvium over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1 -- 0 to 27 in	loam	moderate	5.43 to 5.98 in	6.1 to 7.3
A2,BA -- 27 to 40 in	loam	moderate	2.21 to 2.47 in	6.1 to 7.3
Bw -- 40 to 63 in	loam	moderate	3.65 to 4.11 in	6.1 to 7.3
C -- 63 to 80 in	loam	moderate	2.54 to 3.22 in	7.4 to 8.4

L139A--Wadena loam, 0 to 2 percent slopes

Wadena

Extent: 80 to 90 percent of the unit
Landform(s): flats on outwash plains, rises on outwash plains, flats on stream terraces, rises on stream terraces
Slope gradient: 0 to 2 percent
Parent material: loamy sediments over outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2s
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 13 in	loam	moderate	2.60 to 2.86 in	6.1 to 7.3
Bw1 -- 13 to 20 in	loam	moderate	0.99 to 1.35 in	5.6 to 7.3
Bw2 -- 20 to 30 in	sandy loam	moderately rapid	1.28 to 1.77 in	5.6 to 7.3
2C -- 30 to 60 in	gravelly coarse sand	rapid	0.60 to 1.20 in	6.6 to 8.4

L139B--Wadena loam, 2 to 6 percent slopes

Wadena

Extent: 80 to 90 percent of the unit
Landform(s): hills on outwash plains, hills on terraces
Slope gradient: 2 to 6 percent
Parent material: loamy sediments over outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 13 in	loam	moderate	2.60 to 2.86 in	6.1 to 7.3
Bw1 -- 13 to 20 in	loam	moderate	0.99 to 1.35 in	5.6 to 7.3
Bw2 -- 20 to 30 in	sandy loam	moderately rapid	1.28 to 1.77 in	5.6 to 7.3
2C -- 30 to 60 in	gravelly coarse sand	rapid	0.60 to 1.20 in	6.6 to 8.4

L201A--Normania loam, 0 to 3 percent slopes

Normania

Extent: 75 to 90 percent of the unit
Landform(s): flats on moraines, rises on moraines
Slope gradient: 0 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A,AB -- 0 to 17 in	loam	moderate	3.39 to 3.72 in	6.1 to 7.3
Bw -- 17 to 26 in	loam	moderate	1.36 to 1.72 in	6.6 to 7.3
Bk -- 26 to 50 in	loam	moderate	3.60 to 4.56 in	7.4 to 8.4
Cg -- 50 to 60 in	loam	moderate	1.48 to 1.87 in	7.4 to 8.4

L211B--Amiret-Round Lake-Swanlake complex, 2 to 6 percent slopes

Amiret

Extent: 20 to 45 percent of the unit
Landform(s): moraines on hills
Slope gradient: 2 to 5 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 12 in	loam	moderate	2.01 to 2.60 in	6.1 to 7.3
Bw -- 12 to 20 in	loam	moderate	1.24 to 1.57 in	6.1 to 7.3
Bk -- 20 to 50 in	loam	moderate	4.49 to 5.69 in	7.4 to 8.4
BC -- 50 to 67 in	loam	moderate	2.54 to 3.22 in	7.4 to 8.4
C -- 67 to 80 in	loam	moderate	1.95 to 2.47 in	7.4 to 8.4

Round Lake

Extent: 20 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: outwash over till or lacustrine silty sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3s
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 11 in	sandy loam	moderately rapid	1.43 to 1.98 in	5.6 to 7.3
Bw -- 11 to 14 in	sandy loam	moderately rapid	0.41 to 0.57 in	5.6 to 7.3
2Bw -- 14 to 26 in	loamy coarse sand	rapid	0.24 to 0.47 in	5.6 to 7.3
2Bk -- 26 to 35 in	gravelly coarse sand	rapid	0.18 to 0.36 in	6.6 to 8.4
2C -- 35 to 48 in	coarse sand	rapid	0.26 to 0.52 in	6.6 to 8.4
3Cg -- 48 to 80 in	silt loam	moderate	5.10 to 7.02 in	7.4 to 8.4

L211B--Amiret-Round Lake-Swanlake complex, 2 to 6 percent slopes

Swanlake

Extent: 15 to 30 percent of the unit
Landform(s): hills on moraines
Slope gradient: 3 to 6 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 2.17 in	7.4 to 8.4
Bk -- 9 to 43 in	loam	moderate	5.08 to 6.43 in	7.4 to 8.4
C -- 43 to 60 in	loam	moderate	2.54 to 3.22 in	7.4 to 8.4

L212A--Burr-Nishna complex, 0 to 2 percent slopes, ocassionally flooded

Burr, occasionally flooded

Extent: 50 to 80 percent of the unit
Landform(s): flats on lake plains
Slope gradient: 0 to 2 percent
Parent material: lacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Apy -- 0 to 7 in	silty clay loam	moderate	1.28 to 1.56 in	7.4 to 8.4
A1ky,A2y -- 7 to 25 in	silty clay loam	moderately slow	2.54 to 3.08 in	7.4 to 8.4
A3,A4 -- 25 to 35 in	silty clay	moderately slow	1.38 to 1.67 in	7.4 to 8.4
Cg -- 35 to 60 in	stratified silt loam to clay	moderately slow	2.23 to 3.22 in	7.4 to 8.4

Nishna, occasionally flooded

Extent: 20 to 55 percent of the unit
Landform(s): flood plains, flats on lake plains
Slope gradient: 0 to 1 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4
Wind erodibility index (WEI): 86
Kw factor (surface layer) .37
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A,Bg -- 0 to 48 in	silty clay	slow	6.72 to 8.17 in	7.4 to 8.4
Cg -- 48 to 60 in	silty clay loam	slow	1.89 to 2.24 in	7.4 to 8.4

L213A--Calco silty clay loam, 0 to 2 percent slopes, frequently flooded

Calco, frequently flooded

Extent: 75 to 90 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 5w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 22 in	silty clay loam	moderate	4.63 to 5.07 in	7.4 to 8.4
Bg -- 22 to 50 in	silty clay loam	moderate	5.87 to 6.43 in	7.4 to 8.4
Cg -- 50 to 80 in	silty clay loam	moderate	5.39 to 5.98 in	7.4 to 8.4

L214A--Calco-Du Page complex, 0 to 2 percent slopes, frequently flooded

Calco, frequently flooded

Extent: 40 to 70 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 5w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1 -- 0 to 14 in	silty clay loam	moderate	2.98 to 3.26 in	7.4 to 8.4
A2 -- 14 to 40 in	silty clay loam	moderate	5.46 to 5.98 in	7.4 to 8.4
Cg -- 40 to 60 in	silty clay loam	moderate	3.54 to 3.94 in	7.4 to 8.4

Du Page, frequently flooded

Extent: 40 to 60 percent of the unit
Landform(s): flats on flood plains, rises on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 5w
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2 -- 0 to 36 in	loam	moderate	7.17 to 7.88 in	6.6 to 8.4
C1,C2 -- 36 to 60 in	loam	moderate	4.08 to 4.56 in	7.4 to 8.4

L215B--Dickman sandy loam, 2 to 6 percent slopes

Dickman

Extent: 80 to 90 percent of the unit
Landform(s): outwash plains on hills
Slope gradient: 2 to 6 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 12 in	sandy loam	moderately rapid	1.54 to 1.77 in	6.1 to 6.5
Bw -- 12 to 19 in	sandy loam	moderately rapid	0.85 to 0.99 in	6.1 to 7.3
2Bw,C -- 19 to 80 in	coarse sand	rapid	3.05 to 4.27 in	6.1 to 7.8

L216A--Du Page, rarely flooded-Wergeland complex, 0 to 3 percent slopes

Du Page, rarely flooded

Extent: 50 to 70 percent of the unit
Landform(s): flats on flood plains, rises on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1,A2 -- 0 to 36 in	loam	moderate	7.17 to 7.88 in	6.6 to 8.4
C1,C2 -- 36 to 60 in	loam	moderate	4.08 to 4.56 in	7.4 to 8.4

Wergeland

Extent: 30 to 50 percent of the unit
Landform(s): flats on lake plains, rises on lake plains
Slope gradient: 0 to 3 percent
Parent material: loamy and silty sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2s
Hydric soil: no
Hydrologic group: B
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,AB -- 0 to 13 in	loam	moderate	2.60 to 2.86 in	7.4 to 8.4
Bk -- 13 to 25 in	loam	moderate	2.07 to 2.32 in	7.4 to 8.4
Cg -- 25 to 43 in	stratified loam to silty clay loam	moderate	3.01 to 3.37 in	7.4 to 8.4
Ab -- 43 to 58 in	loam	moderate	2.99 to 3.29 in	7.4 to 8.4
C -- 58 to 66 in	stratified loam to silty clay loam	moderate	1.41 to 1.57 in	7.4 to 8.4

L217C2--Ves-Storden complex, 6 to 12 percent slopes, moderately eroded

Ves, moderately eroded

Extent: 35 to 75 percent of the unit
Landform(s): moraines on hills
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	loam	moderate	1.57 to 1.73 in	6.1 to 7.3
Bw1,Bw2 -- 8 to 22 in	loam	moderate	2.13 to 2.69 in	6.6 to 7.3
Bk -- 22 to 33 in	loam	moderate	1.87 to 2.09 in	7.4 to 8.4
C -- 33 to 60 in	loam	moderate	4.55 to 5.09 in	7.4 to 8.4

Storden, moderately eroded

Extent: 30 to 65 percent of the unit
Landform(s): moraines on hills
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	loam	moderate	1.42 to 1.56 in	7.4 to 8.4
Bk -- 7 to 55 in	loam	moderate	7.20 to 9.13 in	7.4 to 8.4
C -- 55 to 80 in	loam	moderate	3.72 to 4.71 in	7.4 to 8.4

L218B--Amiret loam, 2 to 5 percent slopes

Amiret

Extent: 75 to 90 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 5 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 12 in	loam	moderate	2.01 to 2.60 in	6.1 to 7.3
Bw -- 12 to 20 in	loam	moderate	1.24 to 1.57 in	6.1 to 7.3
Bk -- 20 to 50 in	loam	moderate	4.49 to 5.69 in	7.4 to 8.4
BC -- 50 to 67 in	loam	moderate	2.54 to 3.22 in	7.4 to 8.4
C -- 67 to 80 in	loam	moderate	1.95 to 2.47 in	7.4 to 8.4

L220A--Calco silty clay loam, 0 to 2 percent slopes, ocassionally flooded

Calco, occasionally flooded

Extent: 75 to 90 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1 -- 0 to 14 in	silty clay loam	moderate	2.98 to 3.26 in	7.4 to 8.4
A2 -- 14 to 40 in	silty clay loam	moderate	5.46 to 5.98 in	7.4 to 8.4
Cg -- 40 to 60 in	silty clay loam	moderate	3.54 to 3.94 in	7.4 to 8.4

L221A--Du Page loam, 0 to 2 percent slopes, ocassionally flooded

Du Page, occasionally flooded

Extent: 75 to 90 percent of the unit
Landform(s): flats on flood plains, rises on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1,A2 -- 0 to 36 in	loam	moderate	7.17 to 7.88 in	6.6 to 8.4
C1,C2 -- 36 to 60 in	loam	moderate	4.08 to 4.56 in	7.4 to 8.4

L222C2--Ves-Storden-Pilot Grove complex, 6 to 12 percent slopes, moderately eroded

Ves, moderately eroded

Extent: 25 to 40 percent of the unit
Landform(s): moraines on hills
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	loam	moderate	1.57 to 1.73 in	6.1 to 7.3
Bw -- 8 to 22 in	loam	moderate	2.13 to 2.69 in	6.6 to 7.3
Bk -- 22 to 33 in	loam	moderate	1.87 to 2.09 in	7.4 to 8.4
C -- 33 to 60 in	loam	moderate	4.55 to 5.09 in	7.4 to 8.4

Storden, moderately eroded

Extent: 20 to 40 percent of the unit
Landform(s): moraines on hills
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	loam	moderate	1.42 to 1.56 in	7.4 to 8.4
Bk -- 7 to 55 in	loam	moderate	7.20 to 9.13 in	7.4 to 8.4
C -- 55 to 80 in	loam	moderate	3.72 to 4.71 in	7.4 to 8.4

L222C2--Ves-Storden-Pilot Grove complex, 6 to 12 percent slopes, moderately eroded

Pilot Grove

Extent: 15 to 35 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: outwash over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 4s
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
Ap,A --	0 to 9 in	sandy loam	moderately rapid	1.18 to 1.63 in	5.6 to 7.3
Bw --	9 to 17 in	sandy loam	moderately rapid	1.02 to 1.42 in	5.6 to 7.3
2BC --	17 to 21 in	loamy sand	rapid	0.08 to 0.16 in	5.6 to 7.3
2C --	21 to 58 in	gravelly coarse sand	rapid	0.74 to 1.48 in	6.6 to 8.4
3C --	58 to 80 in	loam	moderate	3.31 to 4.19 in	7.4 to 8.4

L223B--Amiret-Swanlake complex, 2 to 6 percent slopes

Amiret

Extent: 15 to 60 percent of the unit
Landform(s): moraines on hills
Slope gradient: 2 to 5 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 12 in	loam	moderate	2.01 to 2.60 in	6.1 to 7.3
Bw -- 12 to 20 in	loam	moderate	1.24 to 1.57 in	6.1 to 7.3
Bk -- 20 to 50 in	loam	moderate	4.49 to 5.69 in	7.4 to 8.4
BC -- 50 to 67 in	loam	moderate	2.54 to 3.22 in	7.4 to 8.4
C -- 67 to 80 in	loam	moderate	1.95 to 2.47 in	7.4 to 8.4

Swanlake

Extent: 15 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 3 to 6 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 2.17 in	7.4 to 8.4
Bk -- 9 to 43 in	loam	moderate	5.08 to 6.43 in	7.4 to 8.4
C -- 43 to 60 in	loam	moderate	2.54 to 3.22 in	7.4 to 8.4

M-W--Water, miscellaneous

Water, miscellaneous

Extent: 100 percent of the unit
Landform(s):
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated
Hydric soil:
Hydrologic group:
Potential for frost action:

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*

W--Water

Water

Extent: 100 percent of the unit
Landform(s):
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated
Hydric soil:
Hydrologic group:
Potential for frost action:

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*

This report provides a semitabular listing of some soil and site properties and interpretations that are valuable in communicating the concept of a map unit. The report also provides easy access to the commonly used conservation planning information in one place. The major soil components in each map unit are displayed. Minor components may be displayed if they are included in the database and are selected at the time the report is generated.